

-12-

## CLAIMS

1. A position detector for a check valve having a check valve arm  
2 pivotable responsive to a change in position of the check valve, comprising:  
a bracket having  
4 a long leg generally parallel to a small leg, said long and small legs  
interconnected at their lower ends by a bottom leg, and  
6 a support arm extending from the upper end of the long leg, said  
support arm being spaced from said small leg and including a  
8 portion facing said bottom leg,  
wherein said check valve arm is receivable between said support arm  
10 and said bottom leg and between said long leg and said short  
leg;  
12 a first set member on one of said short leg and long leg, said first set  
member being adjustably movable toward the other of said short leg  
14 and long leg;  
a second set member on one of said bottom leg and said support arm, said  
16 second set member being adjustably movable toward the other of  
said bottom leg and support arm;  
18 a tilt switch;  
a connector adjustably connecting said tilt switch to said bracket support  
20 arm in a selected one of a plurality of secure positions pivoted around  
an axis fixed to said bracket support arm, said axis being oriented  
22 generally transverse to said long and short legs;  
a circuit status indicator;  
24 a wire connector for both said tilt switch and said circuit status indicator; and

-13-

26 a first plug selectively securable to said wire connector to form a first circuit  
with said tilt switch and said circuit status indicator when said tilt  
switch is in a selected position.

2 2. The position detector of claim 1, wherein said first plug  
includes a power source for said circuit.

2 3. The position detector of claim 2, wherein said power source is  
a battery.

2 4. The position detector of claim 1, further comprising a second  
plug selectively securable to said wire connector to form a second circuit with said  
tilt switch and a controller, wherein said controller operates responsive to the  
4 condition of the tilt switch.

2 5. The position detector of claim 1, wherein said circuit status  
indicator is a light emitting diode.

2 6. The position detector of claim 5, wherein said light emitting  
diode is integral with said tilt switch.

2 7. A position detector for a check valve having a check valve arm  
pivotal responsive to a change in position of the check valve, comprising:  
a bracket including a support arm;  
4 adjustable securing members adapted to rigidly secure said bracket to said  
check valve arm;

-14-

6 a tilt switch;  
a connector adjustably connecting said tilt switch to said bracket support  
8 arm in a selected one of a plurality of secure positions pivoted around  
an axis fixed to said bracket support arm, said axis being oriented  
10 generally horizontally when said securing members secure said  
bracket to said check valve arm;  
12 a circuit status indicator;  
a wire connector for both said tilt switch and said circuit status indicator; and  
14 a first plug selectively securable to said wire connector whereby a first circuit  
with said tilt switch and said circuit status indicator is formed when  
16 said tilt switch is in a selected position.

8. The position detector of claim 7, further comprising a second  
2 plug selectively securable to said wire connector to form a second circuit with said  
tilt switch and a controller, wherein said controller operates responsive to the  
4 condition of the tilt switch.

9. The position detector of claim 8, wherein  
2 said tilt switch closes said second circuit when said check valve arm is in a  
position corresponding to said check valve being closed;  
4 said controller controls a pump adapted to pump through said valve; and  
said controller activates a pump operation alarm when operating said pump  
6 if said second circuit closes.

10. The position detector of claim 7, wherein said bracket has:

-15-

2 a long leg generally parallel to a small leg, said long and small legs  
interconnected at their lower ends by a bottom leg; and  
4 said support arm extends from the upper end of the long leg, said support  
arm being spaced from said small leg and including a portion facing  
6 said bottom leg;  
wherein said check valve arm is receivable between said support arm and  
8 said bottom leg and between said long leg and said short leg.

11. The position detector of claim 7, wherein said securing  
2 members comprise:  
a first set member on one of said short leg and long leg, said first set  
4 member being adjustably movable toward the other of said short leg  
and long leg; and  
6 a second set member on one of said bottom leg and said support arm, said  
second set member being adjustably movable toward the other of  
8 said bottom leg and support arm.

12. The position detector of claim 7, wherein said first plug  
2 includes a power source for said circuit.

13. The method of claim 12, wherein said power source is a  
2 battery.

14. The position detector of claim 7, wherein said circuit status  
2 indicator is a light emitting diode.

-16-

2           15.    The position detector of claim 14, wherein said light emitting  
diode is integral with said tilt switch.

2           16.    A method of securing a position detector to a check valve arm  
pivotal responsive to a change in position of a check valve of a pump, comprising  
the steps of:

4                securing a support bracket to said check valve arm, said support bracket  
                  supporting a tilt switch pivotable about a generally horizontal axis  
6                relative to said support bracket;

8                providing a powered circuit through the tilt switch and a position indicator  
                  associated with the tilt switch;

10              pivoting the tilt switch while the check valve arm is in a closed position until  
                  the position indicator is activated by the powered circuit;

12              securing said tilt switch against pivoting relative to said support bracket; and  
                  providing a monitoring circuit through the tilt switch and a controller  
                  controlling the pump.